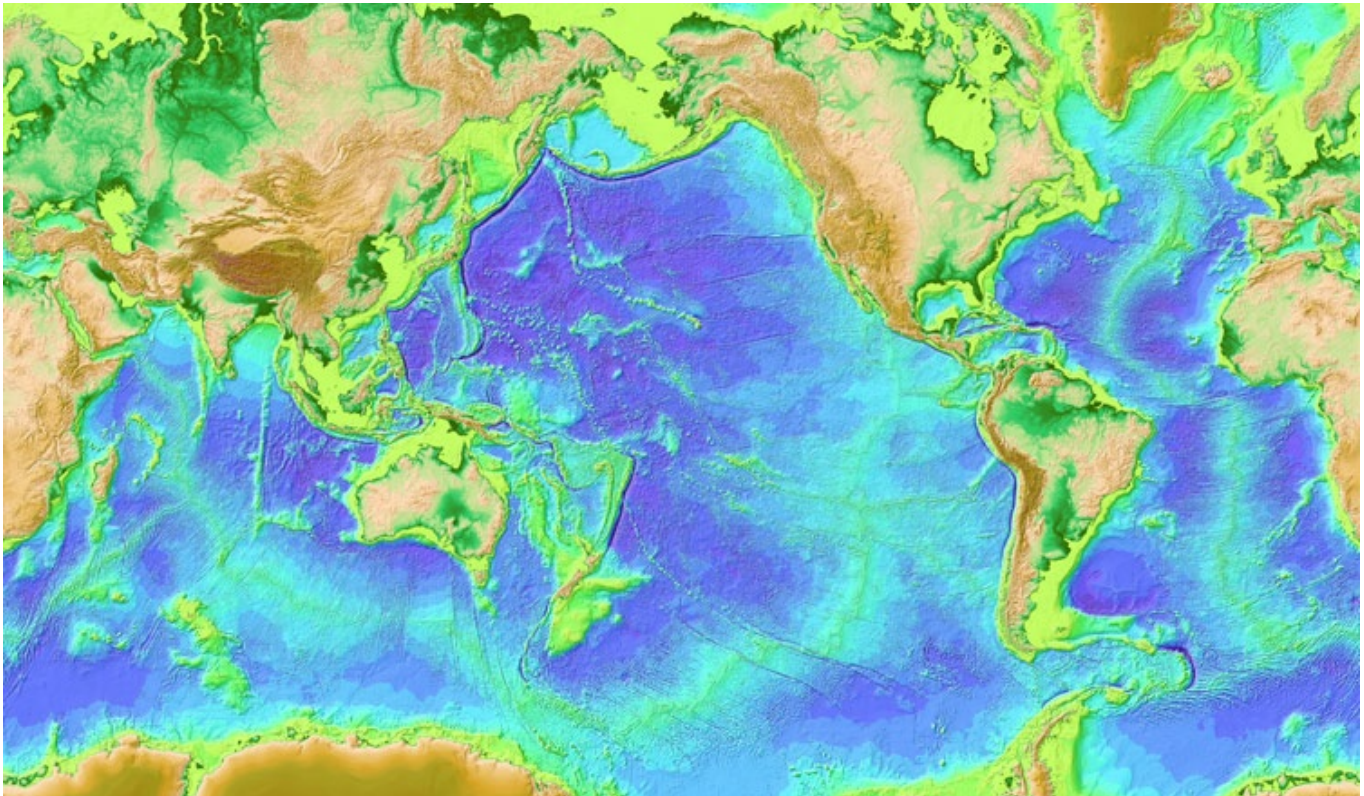
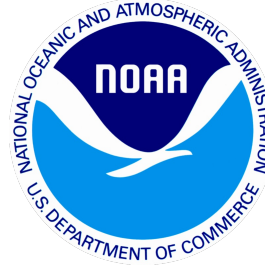


NESDIS NEWS

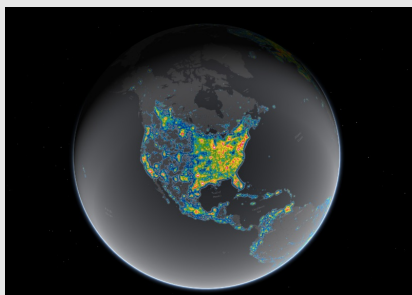
National Environmental Satellite, Data, and
Information Service

June 2016



In honor of [National Oceans Month](#), we wanted to take this opportunity to talk about the depth of our oceans. This may seem like a straightforward topic, but in reality the surface of Mars, Venus, and Earth's moons are better mapped than our own oceans. The lack of water on these planets allows scientists to map their surface elevations using radars and lasers. However, ocean floor mapping relies on multibeam echo sounders, which must be carried by a ship and is time intensive. This problem is even more relevant for our more remote oceans, like the Arctic and Southern. In an attempt to work around these limitations satellite altimeters - used to measure sea height - are being used to provide estimates of the depth of some of the most remote parts of our seafloor. The [Jason-2](#) ocean altimetry satellite has been instrumental to this endeavor, now joined by [Jason-3](#). For more on satellite altimetric bathymetry visit NESDIS' [Laboratory for Satellite Altimetry](#).

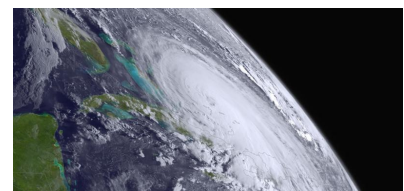
DID YOU KNOW?



Scientists NOAA's [National Centers for Environmental Information \(NCEI\)](#) and

Hurricane Season is Here

NOAA's [Climate Prediction Center](#) says the 2016 [Atlantic hurricane season](#), which runs from June 1 through November 30, will most likely be near-normal, but forecast uncertainty in the climate signals that influence the formation of Atlantic storms make predicting this season particularly difficult.



Hurricane Joaquin reaches Category 4 strength on October 1, 2015

the [Cooperative Institute for Research in Environmental Sciences \(CIRES\)](#) developed a global atlas for light pollution, recently [published](#) in the journal *Science Advances*.

The Milky Way, the brilliant river of stars that has dominated the night sky and human imaginations since time immemorial, is but a faded memory to one-third of humanity and 80 percent of Americans.

Light pollution is one of the most pervasive forms of environmental alteration. In most developed countries, the ubiquitous presence of artificial lights creates a luminous fog that swamps the stars and constellations of the night sky.

The atlas takes advantage of low-light imaging now available from the [NOAA/NASA Suomi National Polar-orbiting Partnership satellite](#), calibrated by thousands of ground observations. The brighter the area in the image (above), and [interactive map](#), the harder it is to see stars and constellations in the night sky.

SARSAT Saves

The [Search and Rescue Satellite Aided Tracking](#) system detects and locates mariners, aviators, and recreational enthusiasts in distress. The satellites relay distress signals from emergency beacons to a network of ground stations and ultimately to the U.S. Mission Control Center in Suitland, Maryland. The Center processes the distress signal and alerts the appropriate search and rescue authorities to who is in distress and where they are located.

Select recent SARSAT rescues:

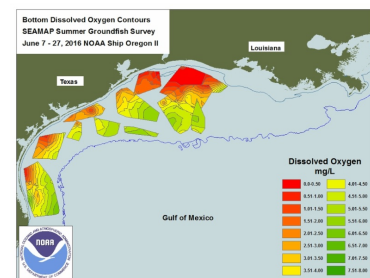
1) On June 3, 2016, the signal from a personal locator beacon (PLB) was detected approximately three nautical miles northeast of Abbeyville, Colorado. The signal was received by NOAA's Satellite Operations Facility in Suitland, Maryland, and was sent to the Air Force Rescue Coordination Center, who notified the Colorado Search and Rescue Board. The Colorado Search and Rescue Board directed the Chaffee County Sheriff to coordinate the response. Rescue teams were deployed to the coordinates provided by the SARSAT alert, locating a stranded hiker on a ledge suffering from exhaustion. The teams lowered the hiker off the falls and transported him to his residence in Buena Vista,

NOAA predicts a 70 percent likelihood of 10 to 16 named storms (winds of 39 mph or higher), of which 4 to 8 could become hurricanes (winds of 74 mph or higher). It only takes one storm to change your life and community. Tropical cyclones are among nature's most powerful and destructive phenomena. If you live in an area prone to tropical cyclones, you need to be prepared.

[NOAA Extreme Weather Information Sheets](#) were created to cover coastal regions of states and the two US territories that are particularly at risk from tropical storms and hurricanes. For ten years, we have provided NOAA Extreme Weather Information Sheets as "one-stop" ready references containing phone numbers and Web site information residents can use during potentially life-threatening weather emergencies.

Supporting Gulf of Mexico Hypoxia Studies

Every summer since 1985, NOAA scientists head out to the Gulf of Mexico on an annual summer groundfish survey to monitor fish populations and to measure bottom dissolved oxygen to see if [hypoxia](#) is occurring.



NOAA's [National Centers for Environmental Information](#) (NCEI) partner with the [National Marine Fisheries Service](#) on this endeavor, and for over 15 years, NCEI has used the data to create near-real-time bottom dissolved oxygen maps and environmental profiles that are available to the public [online](#).

On June 7, 2016, the NOAA Ship *Oregon II* sailed from Pascagoula, Mississippi to begin the annual summer groundfish survey, formally titled the Southeast Area Monitoring and Assessment Program. The survey will conclude July 20, 2016.

The results of these activities are frequently used as a precursor to plan the annual hypoxia data collection activity that is funded by the [National Ocean Service](#) (NOS). The NOS releases an [annual outlook](#) of the extent of the Gulf of Mexico dead zone.

NESDIS also supports the annual outlook via the [Argos Data Collection and location System](#) (DCS). The outlook is based on nutrient runoff and river and stream data from the United States Geological Survey. The 2,700 real-time stream gauges and 60 real-time nitrate sensors are equipped with transmitters that relay the data using Argos DCS instruments flying on-board a suite of polar-orbiting satellites, which are owned and operated by NOAA's NESDIS and international partners.

The hypoxic zone off the coast of Louisiana and Texas forms each summer threatening the ecosystem that supports valuable commercial and recreational Gulf of Mexico fisheries. NOAA-funded research shows hypoxia results in habitat loss, displacement of fish from their preferred areas, and a decline in reproductive ability in some species.

NOAA's Coral Reef Watch

Colorado.

2) On June 8, 2016, the signal from a personal locator beacon (PLB) was detected approximately 6 nautical miles east of Louisville, Georgia. The beacon was activated after two South Carolina Air National Guard F-16 aircraft experienced a mid-air collision and the pilots ejected from the aircraft. The signal was received by NOAA's Satellite Operations Facility in Suitland, Maryland, and was sent to the Air Force Rescue Coordination Center, who directed the military and local law enforcement response personnel to the position indicated by the SARSAT alert. Both pilots were recovered uninjured. The pilots are home ported at the McEntire Joint National Guard Base.

Satellite Highlights

GOES-R

United Launch Alliance (ULA) has resolved the cause of the March 2016 Atlas V launch vehicle anomaly. As a result, ULA and NASA Launch Services Program have approved an updated GOES-R launch date for no earlier than November 4, 2016 with a backup date of November 5, 2016. The prior launch date for the GOES-R satellite was October 13, 2016.

Jason-3

The official handover from the Centre National d'Etudes Spatiales (CNES, the French Space Agency) to NOAA for routine satellite operations occurred on June 1, 2016.

DSCOVR

NOAA's first operational space weather satellite, the Deep Space Climate Observatory (DSCOVR), has completed instrument validation and [will go operational](#) on July 27, 2016. DSCOVR was launched on February 11, 2015, and reached final orbit on June 8, 2015. The July 27 date will allow data users at least 30 days to accommodate any needed changes to their systems.

NESDIS in the NEWS

You can find the most recent editions of **NESDIS Newsletters** [here](#).

Bloomberg Business News

Healthy coral reefs are among the most biologically diverse, culturally significant, and economically valuable ecosystems on Earth. They provide billions of dollars in food, jobs, recreational opportunities, coastal protection, and other important goods and services to people around the world.



Before and after images of bleaching in America Samoa.

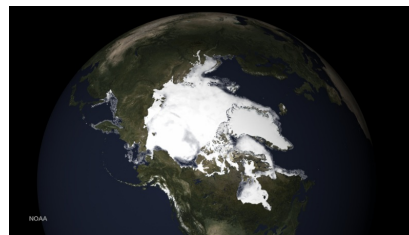
[NOAA's Coral Reef Watch](#) utilizes satellite data to provide current reef environmental conditions to quickly identify areas at risk for [coral bleaching](#). If a coral is severely bleached, disease and partial mortality become likely, and the entire colony may die.

As of April 2016, the current global coral bleaching event is the longest ever recorded. While it generally has not been as severe as the bleaching in 1998, it has affected more reefs than any previous global bleaching event and been worse in some locales (e.g., Great Barrier Reef, Kiribati), and thermal stress during this event has caused mass bleaching in several reefs that never bleached before. Bleaching in the GBR has been the worst ever documented, and in Kiribati, surveys in March and April revealed over 80% of corals dead and 15% bleached, leaving few untouched. The full story is available [here](#).

The Coral Reef Watch satellite product suites are a key component of NOAA's monitoring system for coral reef ecosystems. The Coral Reef Watch is part of NESDIS and the multidisciplinary [NOAA Coral Reef Conservation Program](#).

Record Low Arctic Sea Ice Cover

According to the [U.S. National Ice Center](#), the [National Snow and Ice Data Center](#), and the [Japan Aerospace Exploration Agency](#), Northern Hemisphere sea ice conditions are currently tracking at their lowest level.



The average Arctic sea ice extent for May 2016 has set a new record, becoming the lowest extent for the month since satellite observations began. This record low may not come as a surprise, however, following a record low extent in January, February, and April 2016.

The National Snow and Ice Data Center reports that the average sea ice extent is 580,000 square kilometers (224,000 square miles) below the previous record low for the month set in 2004, and 1.39 million square kilometers (537,000 square miles) below the 1981 to 2010 long-term average. They calculate that the rate of decline of Arctic sea ice for the month of May, from 1978 to 2016, is 2.6% per decade.

Daily extents in May were also two to four weeks ahead of levels seen in 2012, which had the lowest Arctic sea ice minimum extent on the satellite record (typically the summer melting season runs March to September).

These conditions have been preceded by historically warm winter Arctic temperatures and very low winter ice conditions.

[Satellites Captured Doomed EgyptAir
Jet's Distress Signals](#)

KVUE-TV 24/3 ABC

[NOAA, NASA planning fall launch of
new weather satellite](#)

Satnews

[NOAA's Jason-3 Satellite Ready For
The Hurricane Season](#)

Science Daily

[Mystery of powerful lightning at sea not
solved completely](#)

Washington Post Weather Gang

[We are living in the planet's most
unusually warm period in modern
history](#)

AL News

[Fort McMurray wildfire smoke caught in
the clouds, captured by NASA and
NOAA](#)

Washington Post

[Want to know how rich your neighbor
is? Take a look at a satellite image.](#)

Message from Dr. Stephen Volz

Assistant Administrator for NESDIS

We previously informed you of the release of a Request for Information (RFI) to support the Commercial Weather Data Pilot. That RFI closed on June 13, and we are currently evaluating responses.



As the next step in implementing the Pilot, NESDIS released a [draft Request for Proposals](#) (RFP) for public comment on June 21. The RFP seeks on-orbit Radio Occultation data for the purposes of assessing the potential viability of this data in NOAA's weather modeling and forecasting. Comments received to the draft RFP will inform development of the final RFP, anticipated for release later this summer.

In conjunction with the draft RFP open comment period, on July 7 NESDIS will host the third in our series of Community Engagements with the commercial space industry. Topics will include addressing questions about the draft RFP and an update on NESDIS commercial efforts more broadly. For more information and to register, please click [here](#).

Information on all of NOAA's commercial activities can be found at the "[Business with NOAA](#)" section of the Office of Space Commerce website.

I thank Congress for your continued support of our important work. Please contact Sierra Jones at 202.482.6140 or sierra.jones@noaa.gov if you have any questions regarding NOAA's [NESDIS](#), or would like to set up a meeting.

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